Remarks

The Applicants note with appreciation the indication that the priority papers and Information Disclosure Statement have been considered and placed in the Official File.

The Applicants acknowledge the objection to the Drawings with respect to the polyamide resin tube being a multilayer tube with a barrier layer needing to be shown in the Drawings. The Applicants have accordingly added a new Fig. 2. New Fig. 2 is substantially the same as Fig. 1, except that shows the barrier label. Appropriate changes have been made to the Specification so that it conforms to newly added Fig. 2.

The Applicants note with appreciation the Examiner's helpful comments regarding the Abstract. The new Abstract is enclosed for the Examiner's convenience.

The Applicants acknowledge the objection to Claim 2 with respect to the phrase "and/or." Claim 2 has been amended to remove "and/" in favor of "or." New Claim 22 has been added. It is the same as Claim 2 except that it utilizes the "and" language removed from Claim 2. Entry into the Official File and consideration on the merits is respectfully requested.

The Applicants have also added new Claims 23 – 25. New Claim 23 refers to a method of forming a fuel pipe joint utilizing the joint material set forth in Claim 1. New Claim 24 is also a method of forming a fuel pipe joint utilizing the joint material set forth in Claim 2. Finally, new Claim 25 is a method of forming a fuel pipe joint utilizing a joint material set forth in Claim 22. Entry into the Official File and examination on the merits is respectfully requested.

The Applicants acknowledge the rejection of Claims 1 – 11 under 35 U.S.C. §103 over the hypothetical combination of Oka with Yokoyama. The Applicants note with appreciation the Examiner's detailed and helpful comments concerning the alleged applicability of both Yokoyama and Oka to Claims 1 - 11. The Applicants, in particular, note the Examiner's frank acknowledgment that Yokoyama does not disclose the claimed joint material. The Applicants agree.

The Applicants also respectfully submit that one of ordinary skill in the art would not make the hypothetical combination of Oka with Yokoyama as set forth in the Official Action. Yokoyama discloses a fuel pipe joint or a fuel pipe quick connector, but does not disclose the specifically claimed material. The joint material of Claims 1 – 11 is a high fuel permeation resistant nylon 9T (PA9T). Yokoyama does not disclose, teach or suggest such a joint material. Instead, Yokoyama teaches a combination of O-rings and bushings. The O-rings may be made from a fluororesin which, of course, has nothing to do with the claimed joint material. The fluororesins of the Yokoyama O-

rings are intended to provide an appropriate low friction capability to facilitate interaction between the connector and the metal tube.

Such fluororesins have nothing to do with the claimed joint material and one of ordinary skill in the art would not look to Oka to provide a substitute.

Oka discloses a polyamide resin composition comprising PA9T and discloses that such a polyamide resin is excellent in flame retardancy and heat resistance. Therefore, the polyamide resin of Oka is quite useful for electric and electronic appliances such as connectors, machine parts, decoration parts and the like. This is disclosed in particular in the first paragraph of Column 1 of Oka as well as in Column 9 in the first full paragraph.

However, the Applicants respectfully submit that one of ordinary skill in the art would not hypothetically combine the polyamide resin of Oka in place of or in addition to the materials of Yokoyama. The reason for this is simple. There are utterly no teachings or suggestions in Oka that the polyamide material would be useful as an excellent fuel permeation resistance material. Oka is limited to teachings with respect to flame retardancy and heat resistance. These physical characteristics have utterly nothing to do with fuel permeation resistance. Thus, one of ordinary skill in the art would have no motivation to make the hypothetical combination.

It must be remembered that, in forming a rejection under §103, the prior art must teach or suggest that a modification be made and that there would be a reasonable expectation of success that the modification would bring about the desired result sought by such a modification. Both of these conditions must be met before the rejection can be sustained.

The Applicants respectfully submit that the hypothetical combination of Oka with Yokoyama fails both aspects of this requirement. First, there is nothing in either of Yokoyama and Oka that would teach or suggest a modification. The construction disclosed by Yokoyama is apparently already quite sufficient in achieving the objective of fuel permeation resistance. There is nothing in the disclosure of Yokoyama that would lead one of ordinary skill in the art to the belief that there is some deficiency in the fuel permeation resistance capabilities of the Yokoyama quick connector. Then, Oka fails to provide additional teachings to one of ordinary skill in the art to modify the Yokoyama device. Oka teaches compositions that are flame-retardant and heat resistant. There is no teaching and no suggestion in Oka that the polyamide compositions of Oka would provide excellent fuel permeation resistance. As a consequence, the Applicants respectfully submit that neither reference provides teachings or suggestions to modify the structure disclosed by Yokoyama.

The Applicants further respectfully submit that one of ordinary skill in the art would have no reasonable expectation of success that, if the polyamide composition of Oka were to be substituted for the materials of Yokoyama, fuel resistance would even remain at the level that is taught by Yokoyama, much less an improved fuel permeation resistance. As noted above, there is not a single word concerning the fuel permeation resistance characteristics of the Oka polyamide composition. The disclosure of Oka is limited to flame retardancy and heat resistance. Thus, it could not be said that one of ordinary skill in the art would have a reasonable expectation of success that substituting the Oka polyamide composition for the joint material of Yokoyama would improve fuel permeation resistance. The Applicants therefore respectfully submit that one of ordinary skill in the art would not make the hypothetical combination in the first place and that there would be no reasonable expectation of success if the combination were to be made. Accordingly, the Applicants respectfully submit that combining Oka with Yokoyama is not appropriate under 35 U.S.C. §103 and that the rejection must fail.

In any event, the Applicants respectfully submit that they have established unexpected results. In that regard, the Applicants invite the Examiner's attention to Table 1 of the Applicants' Specification wherein the Applicants factually establish the surprising result that the claimed polyamide composition resulted in fuel permeation rates that were at least 10 times higher than other well known polyamides. The Applicants' Table 1 is located on page 25 of the Specification and an examination of the Applicants' Examples and Comparative Examples demonstrates the unexpected results shown with respect to fuel permeation between different polyamides. As a consequence, the Applicants have established non-obviousness beyond the establishment noted above that one of ordinary skill in the art would not make the hypothetical combination of Oka with Yokoyama. The Applicants therefore respectfully request that the rejection of Claims 1 – 11 over the combination of Oka with Yokoyama be withdrawn.

The Applicants acknowledge the rejection of Claims 12 – 13 and 16 – 20 under 35 U.S.C. §103 as being obvious over the further hypothetical combination of Noone with Oka and Yokoyama as referenced above. The Applicants respectfully submit that addition of the subject matter of Noone provides no teachings or suggestions on top of the disclosures of Oka and/or Yokoyama that would lead one of ordinary skill in the art to make the hypothetical combination as noted above with respect to Claims 1 – 11. In other words, one of ordinary skill in the art would still have no incentive to combine the materials taught by Oka as a substitute for the materials of Yokoyama even with the additional teachings of Noone. Accordingly, the Applicants respectfully submit that Claims 12 – 13

and 16 – 20 are fully allowable over the Noone, Oka and Yokoyama references. Withdrawal of the rejection is respectfully requested.

The Applicants acknowledge the rejection of Claims 1 – 11 under 35 U.S.C. §103 over the hypothetical combination of Uchida with Yokoyama. The Applicants respectfully submit that one of ordinary skill in the art would not make the hypothetical combination for essentially the same reasons set forth above with respect to Oka and Yokoyama. The Applicants respectfully submit that there is no incentive for one of ordinary skill in the art to substitute the polyamide composition of Uchida for the joint material of Yokoyama. There is utterly nothing in Uchida that would lead one of ordinary skill in the art to make the modification in view of the need to have excellent fuel permeation resistance characteristics in accordance with Claims 1 – 11. There is utterly nothing in Uchida that would lead one of ordinary skill in the art to believe that the polyamide composition of Uchida would provide such fuel permeation resistance.

In fact, one of ordinary skill in the art would likely be led away from Uchida by reference to the teachings in paragraph [0055] wherein uses for molded articles made from the polyamide composition are set forth. Among those are fuel filters. Fuel filters inherently suggest the rapid passage of fuel through such a material and, therefore, would not likely lead one of ordinary skill in the art to use the polyamide composition as a joint material which is intended to have low fuel permeability. In any event, there is nothing in Uchida that suggests to one of ordinary skill in the art that the polyamide composition would be useful as a joint material.

The Applicants respectfully submit that one of ordinary skill in the art would not make the hypothetical combination of Uchida with Yokoyama as set forth above. Also, the Applicants again point out that they have established unexpected results with respect to the particularly claimed polyamide material versus other polyamide materials that are known as those materials apply to the fuel permeation resistance. One of ordinary skill in the art would certainly have had no idea that the claimed polyamides would have such a dramatically improved fuel permeability resistance over the other polyamide compositions. The Applicants therefore respectfully request withdrawal of the rejection of Claims 1 – 11 based on the hypothetical combination of Uchida with Yokoyama.

The Applicants acknowledge the rejection of Claims 12 – 13 and 16 – 20 under 35 U.S.C. §103 over the further hypothetical combination of Noone with Uchida and Yokoyama. Again, the Applicants respectfully submit that Noone fails to provide additional teachings or suggestions to those of ordinary skill in the art that would cause such persons of ordinary skill in the art to make the

hypothetical combination of Uchida with Yokoyama. Withdrawal of that rejection is also respectfully requested.

Finally, the Applicants acknowledge the rejection of Claims 14 and 15 under 35 U.S.C. §103 over the still further hypothetical combination of Andre with Noone, Uchida and Yokoyama. Andre still further fails to provide teachings or suggestions, when added to the teachings of Noone, that would cause one of ordinary skill in the art to make the hypothetical combination of Uchida with Yokoyama. Withdrawal of the rejection of Claims 14 and 15 is respectfully requested.

In light of the foregoing,, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,

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In the Drawings

Kindly add attached new Fig. 2 to the Drawing now of record.